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Wed-Af-Po3.18-08 [44]: Experimental research on critical current behavior of various HTS tapes

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In practical applications, the critical current of high temperature superconducting (HTS) tapes is usually influenced by many factors, such as magnetic field, stress and strain, etc. In order to design HTS devices accurately, it is vital to study the critical current behavior of HTS tapes under different conditions. In this work, a series experiments have been performed to study the critical current characteristics of several typical HTS tapes at 77 K. The experimental results and analysis have been introduced in details, including the dependence of critical current of the HTS tapes on external magnetic fields, applied tensile strain and bending stresses, as well as the current recovery characteristics after the withdrawal of the mechanical stress.

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